

LINDA LINGLE
GOVERNOR OF HAWAII



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DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801-3378
October 14, 2009

In reply, please refer to:
File: EHA/HEER Office
2009-644-ES

Walter Chun, Ph.D.
1045 Lolena Place
Honolulu, Hawaii 96817

Facility/Site: Marines MFH MCBH Pa Honua III
Subject: Management of pesticide-impacted soils at Marines MFH MCBH Pa Honua III

Dear Dr. Chun:

This letter responds to your 8/1/2009 letter regarding the management of pesticide-impacted soils at the Pa Honua III military family housing neighborhood, also referred to as the 212 unit military family housing project, at Marine Corps Base Hawaii (MCBH) Kaneohe. We previously sent a 6/19/2009 letter to you in response to your 5/11/2009 letters to Deputy Director Laurence Lau and U.S. Senator Daniel Inouye.

We are enclosing for your use the documents: 1. *Phase I Environmental Site Assessment, Pa Honua 3 Family Housing Area and Pa Honua South Recreation Area, Marine Corps Base Hawaii* (10/1/2007); 2. *Phase II Environmental Site Assessment, Pa Honua 3 Marine Corps Base Hawaii Family Housing Area* (10/1/2007); and 3. *Pesticide Soils Management Plan* (2/2008).

Ohana Military Communities LLC (OMC), a subsidiary of Forest City Enterprises Inc., is the privatized housing contractor for the Navy and the Marine Corps in Hawaii. In late 2007, OMC conducted Phase I and Phase II Environmental Site Assessments (ESAs) at Pa Honua III to assess site conditions after completion of construction activities. They found that organochlorine pesticide levels in surface soils at the site do not exceed the environmental action levels established for OMC sites and concurred upon by the Department of Health's Office of Hazard Evaluation and Emergency Response (HEER Office).

In other words, under current conditions, the health of housing residents is not being adversely affected by exposure to pesticide-impacted soils at the site. This finding is consistent with the expected results of following the OMC *Pesticide Soils Management Plan's* standard procedure of using fresh topsoil to cover any exposed pesticide-impacted soils left on site. HEER Office's 9/30/2009 comments on these Phase I and Phase II ESAs are also attached for your information.

The *Pesticide Soils Management Plan* is the procedural document currently used by OMC to manage pesticide-impacted soils at OMC housing projects. HEER Office has concurred with the February 2007 version of this plan, and there have been no substantive changes in procedures in the February 2008 version. This *Plan* applies to current OMC housing construction projects. HEER Office has requested clarification from the Navy and OMC regarding what pesticide-impacted soil management practices were implemented during the construction of the Pa Honua III neighborhood.

While our first priority is to ensure that current conditions at the site are healthy, we also wish to ensure the health of workers handling pesticide-impacted soils in the event of construction activities, the proper handling and disposal of pesticide-impacted soils, and the long-term effectiveness of on-site soil management practices. To these ends, HEER Office has requested additional information from the Navy regarding pesticide-impacted soil management activities during the construction of the Pa Honua III project, similar information on other MCBH housing construction projects, and additional information on OMC's long-term pesticide-impacted soil management procedures, including resident notification. We are continuing to look into the concerns you have raised, and would like to further address the concerns that you expressed in your 5/11/2009 letter to Senator Inouye:

Concern: *The Navy did not account for disproportionate risks to infants and children.*

Response: In assessing the risk posed by chlordane to infants and children, the Navy used the same default factors developed by the U.S.EPA and also used by the Hawai'i Department of Health. Based on current science, the U.S. EPA does not consider the risks posed by chlordane to warrant a specific adjustment for infants and children.¹

Concern: *The Navy did not account for exposure via consumption of garden vegetables.*

Response: We agree that the Navy did not address exposure via the consumption of garden vegetables grown in chlordane-impacted soil. While vegetables can uptake chlordane from soil, it is difficult to estimate the risk posed by this pathway since it will vary depending upon the concentration of chlordane in the soil and the types of produce grown. MCBH housing residents are currently allowed to grow vegetable gardens²; however, the aforementioned Phase II ESA

¹ See the following U.S. EPA documents: *Implementation of the Cancer Guidelines and Accompanying Supplemental Guidance - Science Policy Council Cancer Guidelines, Implementation Workgroup Communication II: Performing Risk Assessments that include Carcinogens Described in the Supplemental Guidance as having a Mutagenic Mode of Action* (6/11/2006, epa.gov/osa/spc/pdfs/cgiwg_communication_ii.pdf); *Guidelines for Carcinogen Risk Assessment* (2005, EPA/630/P-03/001F, epa.gov/cancerguidelines); *Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens* (2005, EPA/630/R-03/003, epa.gov/cancerguidelines); and *Toxicological review of chlordane (CAS No. 12789-03-6) In Support of Summary Information on the Integrated Risk Information System (IRIS)* (1997, accessed 10/12/2009, epa.gov/ncea/iris/toxreviews/0142-tr.pdf)

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sampling data suggest that OMC has blocked this potential pathway by covering exposed pesticide-impacted soils left on site with fresh topsoil.

Concern: *The Navy did not account for exposure to infants via consumption of breast milk.*

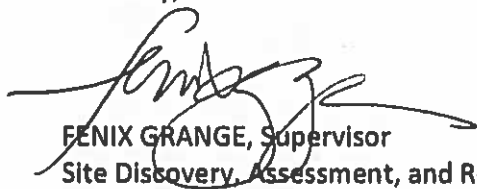
Response: We agree that the Navy did not address exposure to infants via consumption of breast milk produced by mothers affected by chlordane. However, in order for breast milk to contain chlordane, the breastfeeding mother must herself have been exposed to chlordane, via some other exposure pathway such as contact with contaminated soil or ingestion of contaminated vegetable produce as discussed above.

Concern: *The Navy did not account for ecological impacts.*

Response: We agree that the Navy did not address ecological impacts posed by chlordane-impacted soil. However, any such impacts would have occurred only if chlordane-impacted soils from the site had been washed into Kāne'ohe Bay during the project's construction. The Department of Health has no information suggesting that such an event has happened.

Thank you for your interest. HEER Office is continuing to work with the Navy and OMC to ensure the protection of public health and the environment from the hazards posed by pesticide-impacted soils and other hazardous substance releases. Should you have further questions about the cleanup and safe management of contaminated soils, please contact me at (808) 586-4249 or fenix.grange@doh.hawaii.gov.

Sincerely,



FENIX GRANGE, Supervisor
Site Discovery, Assessment, and Remediation Section
Office of Hazard Evaluation and Emergency Response

Attachments:

1. *Phase I Environmental Site Assessment, Pa Honua 3 Family Housing Area and Pa Honua South Recreation Area, Marine Corps Base Hawaii, Kaneohe Bay, 10/1/2007*
2. *Phase II Environmental Site Assessment, Pa Honua 3 Marine Corps Base Hawaii Family Housing Area, 10/1/2007*
3. *Pesticide Soils Management Plan, 2/2008*
4. HEER Office letter 2009-639-ES to Naval Facilities Engineering Command, 9/30/2009

² *Forest City Residential Community Handbook, Marine Corps Neighborhoods (10/1/2007, fcmarineshawaii.com/getpdf.asp?pdf=21497770)*